

Appl. No. 10/502,059  
Response dated: December 29, 2008  
Reply to OA of: June 26, 2008

**Listing of Claims:**

Claims 1- 35(canceled).

36(new). A method for reducing the invasion and infection of mammalian cells by pathogenic, intracellular bacteria to reduce diseases caused by said pathogenic, intracellular bacteria, comprising:

administering orally or per os a composition selected from the group consisting of a liquid food composition, solid food composition, a dietetic composition, and a pharmaceutical composition, wherein the composition comprises a cycloglycan bound to or immobilized on an inert carrier, wherein said cycloglycan is in an amount sufficient to reduce the invasion and infection of said mammalian cells by said pathogenic, intracellular bacteria, and wherein said cycloglycan has a ring-shaped base structure of 4 to 20 monosaccharides in the ring, wherein said monosaccharides in the ring are unsubstituted, or derivatized so that i) one or more of the OH groups of the monosaccharides forming the ring are substituted with an NH<sub>2</sub> group, SH group, phosphate group, sulfate group, nitrate group, C<sub>1-6</sub> alkyl group, hydroxy- C<sub>1-6</sub> alkyl group, or carboxyalkyl group; and ii) optionally one or more of the OH groups as well as, if present, NH<sub>2</sub> and SH groups of the monosaccharides forming the ring are derivatized in the form of ethers, esters, amides and imines to form succinyl-, C<sub>1-6</sub> acyl methyl malonic acid ester-, phosphoglycerol-, and phosphocholinyll derivatives.

37(new). The method according to claim 36, wherein said monosaccharides in the ring are derivatized so that i) one or more of the OH groups of the monosaccharides forming the ring are substituted with an NH<sub>2</sub> group, SH group, phosphate group, sulfate group, nitrate group, C<sub>1-6</sub> alkyl group, hydroxy- C<sub>1-6</sub> alkyl group, or carboxyalkyl group; and ii) one or more of the OH groups, NH<sub>2</sub>, if present, and SH groups, if present, of the monosaccharides forming the ring are derivatized in the form of ethers, esters, amides and imines to form succinyl-, C<sub>1-6</sub> acyl methyl malonic acid ester-, phosphoglycerol-, and phosphocholinyll derivatives.

38(new). The method according to claim 36, wherein a ring of the cycloglycan is made up of D-fructose, D-mannose, L-fucose, D-N-acetyl glucosamine, D-N-acetyl galactosamine, D-xylose, sialic acids, L-rhamnose, D-arabinose, D-allose, D-talose, L-idose, D-ribose, D-galacturonic acid, altrose, D-galactose, or glucose.

39(new). The method according to claim 36, wherein the linkage of the monosaccharides in the ring is  $\alpha$ -glycosidic or  $\beta$ -glycosidic.

40(new). The method according to claim 39, wherein the  $\beta$ -glycosidically linked monosaccharides are glycans.

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41(new). The method according to claim 36, wherein the cycloglycans has 6, 7 or 8 monosaccharides.

42(new). The method according to claim 36, wherein said cycloglycan has a ring-shaped base structure of 4 to 10 monosaccharides.

43(new). The method according to claim 36, The method according to claim 36, wherein a ring of the cycloglycan is made up of D-fructose, D-mannose, L-fucose, D-N-acetyl glucosamine, D-N-acetyl galactosamine, D-xylose, sialic acids, L-rhamnose, D-arabinose, D-allose, D-talose, L-idose, D-ribose, D-galacturonic acid, altrose, D-galactose, or glucose.

44(new). The method according to claim 36, wherein the carrier is a peptide, a protein, a lipid, a lipoid, a polymer or a biopolymer.

45(new). The method according to claim 36, further comprising administering the composiiton with a probe to mammalian cells of a stomach.

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46(new). The method according to claim 36, wherein the composition is a pharmaceutical composition in a form for infusion, oral, lingual, nasal, bronchial, vaginal, topical, or per os administration.

47(new). The method according to claim 36, wherein the cycloglycans are administered once daily in an amount of at least 1 mg per kg of body weight to a human or an animal.

48(new). The method according to claim 36, wherein the mammalian cells are in a gastrointestinal tract, blood system, respiratory passage, urogenital tract, or nasopharynx of a subject.

49(new). The method according to claim 36, wherein the pathogenic, intracellular bacteria are selected from the group consisting of *E. coli*, *Listeria*, and *Salmonella*.

50(new). The method according to claim 49, wherein the pathogenic, intracellular bacteria are *Listeria*.

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51(new). The method according to claim 49, wherein the pathogenic, intracellular bacteria are *Salmonella*.

52(new). The method according to claim 49, comprising administering the cycloglycan to a subject that has a disease caused by said pathogenic, intracellular bacteria.

53(new). A method for reducing the invasion and infection of a pathogenic, intracellular bacteria in a subject exposed to said pathogenic, intracellular bacteria, comprising:

administering to said subject in need thereof a cycloglycan in an amount sufficient to reduce the invasion and infection of said pathogenic, intracellular bacteria in said subject, wherein said cycloglycan has a ring-shaped base structure of 4 to 20 monosaccharides in the ring, wherein said monosaccharides in the ring are unsubstituted, or derivatized so that i) one or more of the OH groups of the monosaccharides forming the ring are substituted with an NH<sub>2</sub> group, SH group, phosphate group, sulfate group, nitrate group, C<sub>1-6</sub> alkyl group, hydroxy- C<sub>1-6</sub> alkyl group, or carboxyalkyl group; and ii) one or more of the OH groups as well as, if present, the NH<sub>2</sub> and SH groups of the monosaccharides forming the ring are

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derivatized in the form of ethers, esters, amides and imines forming succinyl-, C<sub>1-6</sub> acyl methyl malonic acid ester-, phosphoglycerol-, and phosphocholanyl derivatives.

54(new). The method according to claim 53, comprising administering the cycloglycan to a subject that has a disease caused by said pathogenic, intracellular bacteria.

55(new). The method according to claims 54, wherein the cycloglycan is administered to the gastrointestinal tract, blood system, respiratory passage, urogenital tract, or nasopharynx of the subject, and wherein the pathogenic, intracellular bacteria are selected from the group consisting of *E. coli*, *Listeria*, and *Salmonella*.